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The Walking Dead Genealogy: Unsubstantiated Criticisms of Qualitative Data Analysis Software (QDAS) and the Failure to Put Them to Rest

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Abstract

The authors conduct an exposé on the deterministic denunciations of Qualitative Data Analysis Software (QDAS) and how citation errors keep these criticisms alive. They use a zombie metaphor to describe more than two decades of battling these seemingly mindless assessments of QDAS that keep coming –despite their decay – and simply will not die. Focusing exclusively on the criticism of separation/distancing, which alleges that the computer and the software interfere with the researcher's familiarity with the data, the authors trace one current strand of this criticism through a literature genealogy. Three citation errors (half-truth, proxy, and hearsay) are identified to help dismantle the criticism that QDAS inevitably and negatively interferes with the researchers' connection to the data. The article concludes with a reckoning about the role of QDAS experts in perpetuating these citation errors and provides four specific recommendations for all qualitative researchers; suggestions that amount to a more viable avenue for pursuing a cure.

Keywords

ATLAS.ti, CAQDAS, Citation Error, Distancing, Literature Genealogy, NVivo, QDAS, Qualitative Data Analysis Software, Separation, Zombie

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The Walking Dead Genealogy: Unsubstantiated Criticisms of Qualitative Data Analysis Software (QDAS) and the Failure to Put Them to Rest

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The authors conduct an exposé on the deterministic denunciations of Qualitative Data Analysis Software (QDAS) and how citation errors keep these criticisms alive. They use a zombie metaphor to describe more than two decades of battling these seemingly mindless assessments of QDAS that keep coming – despite their decay – and simply will not die. Focusing exclusively on the criticism of separation/distancing, which alleges that the computer and the software interfere with the researcher's familiarity with the data, the authors trace one current strand of this criticism through a literature genealogy. Three citation errors (half-truth, proxy, and hearsay) are identified to help dismantle the criticism that QDAS inevitably and negatively interferes with the researchers' connection to the data. The article concludes with a reckoning about the role of QDAS experts in perpetuating these citation errors and provides four specific recommendations for all qualitative researchers; suggestions that amount to a more viable avenue for pursuing a cure. *Keywords: ATLAS.ti, CAQDAS, Citation Error, Distancing, Literature Genealogy, NVivo, QDAS, Qualitative Data Analysis Software, Separation, Zombie*

Introduction

As experts in Qualitative Data Analysis Software (QDAS) with over 55 combined years of using and teaching either ATLAS.ti or NVivo, we began this investigation with a singular question: Why do so many of the unsubstantiated and/or outdated criticisms of QDAS continue to circulate? At conferences and in publications, QDAS experts regularly battle these criticisms. Since the early 1990s, the general thrusts of the criticisms and rebuttals seem remarkably stagnant, despite the fact that software experts are capable of developing other interesting and relevant critiques from an insider position.

The various criticisms that continue to plague the literary landscape can be divided into four main strands. Each of the strands is introduced with two terms: Separation/Distancing, Homogenization/Standardizing, Mechanization/Dehumanizing, Quantification/ Decontextualizing. The intention is to help readers understand the criticisms from the point of view of the product (…ation) as well as the process (…ing). It is important to note that some authors do not make this distinction between product and process, but it is a helpful heuristic with which to explore the criticisms. In addition, while the criticisms are divided into these

four strands to achieve an analytical focus, they occasionally overlap, intersect and become entangled with one another in the relevant scholarship.

Some of the references below pertain to literature in which the author acknowledges the criticism or inserts it as a caveat, but then goes on to dismantle the criticism, even though these same authors are sometimes erroneously cited as though they support the logic of the criticism.

1. *Separation/Distancing criticism*: The computer and the software can create a barrier between the researcher and the data, limiting his or her ability to become close to and familiar with the data (Agar, 1991; Gilbert, 2002; Goble, Austin, Larsen, Kreitzer, & Brintell, 2012; Grbich, 2013; Weaver & Atkinson, 1994; Weitzman & Miles, 1995).
2. *Homogenization/Standardizing criticism*: The theoretical preferences of the software developers, the communities to which they belong, and the way they display sample projects might facilitate a trend toward homogenization of method (Carvajal, 2002; Coffey, Holbrook, & Atkinson, 1996; Hatch, 2002; Hutchison, Johnston, & Breckon, 2009; Johnston, 2006; Ozkan, 2004).
3. *Mechanization/Dehumanizing criticism*: Drawn in by the ability to routinize some tasks, researchers could risk an over-reliance on mechanization and systematization and might mistake them as markers of rigor (Agar, 1991; Garcia-Horta & Guerra-Ramos, 2009; Schwandt, 2007; Schönfelder, 2011; Zhao, Ross, & Dennis, 2016).
4. *Quantification/Decontextualizing criticism*: Technologies (computers) that were initially developed in order to compute might encourage postures of data extraction via coding, counting and hypothesis testing at the expense of building qualitative interpretations and constructing theory (Agar, 1991; Barry, 1998; Hinchliffe, Crang, Reimer, & Hudson, 1997).

In this paper, we tackle one of these zombies by exploring the question: Why does the criticism that QDAS creates separation/distancing between researchers and their data continue to circulate?

Zombies

From our vantage, the daunting image of stumbling zombies pushing relentlessly toward survivors mirrors the lifeless criticisms of QDAS that keep coming – despite their decay – and simply will not die. The zombie image also captures the tenacity required to steadfastly rebuff criticisms about QDAS as we wearily rise to the occasion over and over; the repetition of the battle becoming the new normal. Like the survivors in *The Walking Dead* (Kirkman, 2010), this is a reality from which we struggle to break free. Our nod to *The Walking Dead* – adapted for television as an AMC series that had more viewers for the opening of season seven (October 23, 2016) than Sunday Night Football (http://deadline.com/2016/10/walking-dead-ratings-season-7-premiere-nfl-1201842022/) – is also an acknowledgement of the veracity of the zombie narrative in popular culture in recent years.[1]

When we began doing research for this article, we did not anticipate many of the ways that the undead would help us understand our own role in reanimating these zombies.

[1] For additional evidence of the popularity of these creatures, see Zombiepedia (http://zombie.wikia.com/wiki/Zombies), a web site about the plethora of zombie variants, such as Walkers, Roamers, Lurkers, and Biters.

Therefore, while this article is primarily an exposé on QDAS criticisms and the mechanisms that have kept them lifelessly stumbling onto our paths, it is also a reckoning about our collective roles in constructing a landscape dotted with zombies. We end with specific suggestions for all qualitative researchers; suggestions that amount to a more viable avenue for pursuing a cure.

Methods

Although the origination and trajectory of the four criticisms all deserve careful analysis, separation/distancing is the focus of this article because it has been addressed more directly and in greater detail than the three other criticisms (Gilbert, 2002; Richards, 1998). Furthermore, the vast scope of the epistemological, discursive, methodological, historical, and political aspects of each criticism prevents a thorough handling of all four criticisms in one article. This investigation focuses on prior literature (rather than interviews or observations) as this is the most readily available data in which to trace the history of the criticism. Although no research to date has been conducted to specifically examine the validity of these criticisms, there are studies of the actual use of QDAS and the relationship between QDAS and qualitative methods: Evers, Silver, Mruck, and Peeters (2011), Gilbert (2002), Jackson (2014), Mangabeira, Lee and Fielding (2004), Paulus, Woods, Atkins, and Macklin (2015), Salmona and Kaczynski (2016), Silver and Rivers (2015), Weaver and Atkinson (1994). None of this research supports the inevitability of the criticisms, nor is there any research conducted by the critics to substantiate their claims.

The investigation began with a literature review in the first author's NVivo database from her prior research on QDAS (Jackson, 2014). The database contained 145 chapters, books, and articles that referred to the use of this genre of software, collected from a variety of sources including databases such as Academic Search Premier, personal libraries of QDAS experts, and open, on-line journals such as *FORUM: Qualitative Social Research* and *The Qualitative Report*. After reviewing some of the most recent discussions of the separation/distancing criticism the citations were traced backwards, starting in the current decade. One of the publications (Ozkan, 2004) was reviewed to investigate where it was subsequently cited, in order to exhaust the investigation in both directions (since Ozkan was the most recent author in the database who specifically raised the criticism and warranted an investigation into whether or not subsequent authors repeated her claims). Most of the materials cited in each of the publications were already in the NVivo database and a few were added to trace the connections among them. Nine items served as the core of the current investigation: Agar, 1991; Barry, 1998; Garcia and Hooper, 2011; Hinchliffe et al., 1997; Ozkan, 2004; Seidel, 1991; Weaver and Atkinson, 1994; Welsh, 2002.

While reading all materials in their entirety, *Memos* and *See Also Links* in the NVivo 11 Pro database were developed to track connections, omissions, contradictions and discursive strategies (such as claims using the words "might," "could" and "potential" versus "will," "does" and "must"). Doing so allowed a tracking of the way each author chose to represent prior scholarship. By paying special attention to adjectives, qualifiers, and hedging language, claims such as the following were investigated thoroughly: "Maintaining a craft-like approach to research can help to open up critically imaginative ways of working with computers (as techniques of representation) and [avoid] the tendency for these programmes to become black-boxes or demonised gadgets" (Hinchliffe et al., 1997, p. 1123). These narrative choices among scholars to select and represent existing scholarship reflects foundations, purposes, priorities, and values of the author (and, to a degree, the audience). These, in turn, must be examined to understand the processes through which the outdated criticisms about the role of QDAS in separation/distancing the researcher from the data are enacted.

The concept of a citation error, defined as the misquotation or misinterpretation of a scholar's work, is not a new phenomenon or concern in scholarly publications. De Lacey, Record, and Wade (1985) argued that "inaccurate quotations and citations are displeasing for the original author, misleading for the reader, and mean that untruths become 'accepted fact'" (p. 884). They assessed the accuracy of cited references in six medical journals and found that the original author was "misquoted in 15% of all references, and most of the errors would have misled readers" (p. 884). Todd and Ladle (2008) suggested that the increasing use of meta-analysis in the sciences contributes to citation error. Like literature reviews, "some meta-analyses rely on secondary data and may therefore unintentionally misrepresent research" (p. 14). A study looking at ecology journals and citation errors found that 15% of the total 334 evaluated citations within the 217 articles were misinterpreted from the original article (Teixeira, Thomaz, Michelan, Mormul, & Meurer, 2013). The authors expressed a concern that "the accuracy of citations is rarely, if ever, checked by reviewers and editors and might be deceptive" (p. 1). A final illustration of the prevalence of citation error is found in a marine biology study which examined 198 articles from 33 marine biology journals, finding that 10.6% of the citations were ambiguous and 7.6% were citations to secondary sources (Todd, Guest, Lu, & Chou, 2010). Even these few examples of citation error illustrate the prevalence of the issue, which will only increase as the scope of literature grows (see O'Neill, Booth, & Lamb, 2018, in this issue, for strategies related to improving the quality of literature reviews.) In addition to contributing to the community of qualitative researchers, the methodology employed here, and the types of citation errors identified will be of use to scholars in other traditions.

Findings

Genealogy

In order to begin tracing the history and genealogy of the separation/distancing argument, an article from 2011 by Garcia and Hooper was chosen, because they presented the most relevant publication that cited Ozkan's (2004) work. This piece is an excellent example of the separation/distancing zombie. Figure 1 depicts the genealogy of this zombie, starting with Garcia and Hooper (2011), which can be traced back to two primary works (Agar, 1991; Seidel, 1991). Software inevitably creates a problematic separation/distancing between the researcher and the data.

While tracing the timeline and content in Figure 1, three types of citation error will be identified, followed by a conclusion that includes specific recommendations that might help us resolve the zombie problem.

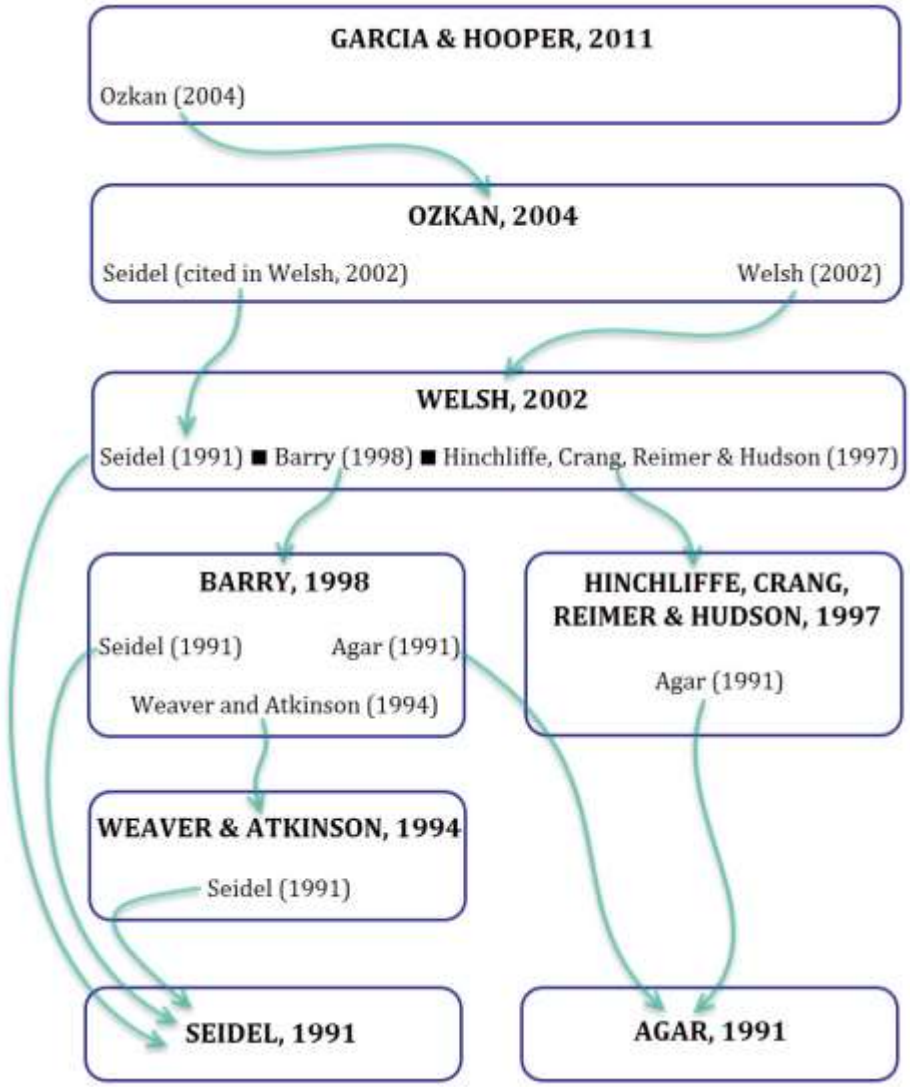

Figure 1.

A partial genealogy of the unsubstantiated criticism that Qualitative Data Analysis Software inevitably creates a problematic separation/distancing between the researcher and the data

The Citation Error of the Half-Truth

In a study of pre-service teachers, Garcia and Hooper (2011) introduced their data analysis section with following:

> To analyze the data, a holistic approach and a strategy that can be termed *reflective-interpretive* (Eisner, 1998) was used. Ozkan (2004) used this approach in a similar research study, and she believed that this approach "fits well with the use of NVivo." (p. 206)

The implication is that Eisner's (1998) reflective-interpretive strategy is somehow in greater alignment with the use of NVivo than other, unnamed strategies (such as hypothesis testing). However, Ozkan (2004) did not actually quarantine NVivo to the reflective-interpretive camp, as we see in this section of her article to which Garcia and Hooper (2011) referred:

> As for the data analysis approach, the interpretivist research paradigm was used as the epistemological framework of the study and the "Connoisseurship Model" of Eisner (1998) was used to guide the data analysis. This holistic approach of data analysis and a strategy that could be termed "reflective-interpretive" fits well with the use of NVivo. *The software package does not force the use of certain data analysis strategies but provides various tools for the researchers which they can choose from based on their research goals and ways of approaching their data* (emphasis added). (p. 593)

Ozkan (2004) made a claim that was lost in the citation by Garcia and Hooper (2011): The software allows for great flexibility in tool use based on the goals and approaches of the researcher. This is the **citation error of half-truth**: A partial account of the original that strongly suggests a deviation from the original author's intent. It is often used to justify claims, strategies, and/or tactics of a subsequent author.

The Citation Errors of Proxy and Hearsay

In her piece on the use of NVivo to assess constructivist learning environments, Ozkan (2004) focused on a reflexive account of the role of NVivo and relied heavily on Welsh (2002) to raise concerns about the potentially negative impact of using QDAS, particularly regarding separation/distancing:

> For instance, Seidel (cited in Welsh, 2002) expresses his concern that the software may "guide" researchers in a particular direction. There are also many other comments like "using QDAS may serve to distance the researcher from the data, encourage quantitative analysis of qualitative data, and create a homogeneity in methods across the social sciences" (Welsh, 2002). When it comes to NVivo many believe that it leads researchers to use "grounded theory" and its tools are designed to serve to this approach. (p. 590)

Ozkan (2004) accurately characterized Welsh (2002) as an advocate of the benefits of QDAS who also presented a juxtaposing set of potentially problematic characteristics, presumably to present multiple angles or viewpoints as a way of helping to identify the camps in the debate. However, Ozkan (2004) began the characterization of these problems by using Welsh as a proxy for Seidel: "For instance, Seidel (cited in Welsh, 2002). . ." (p. 590). This is the **citation error of proxy**: An author does not engage the reader via original material and instead uses secondary sources even though the originals are readily available. While this error is evident in Ozkan's (2004) rendering, the error of proxy is perhaps one of the most undetectable forms of citation error, because authors can easily cite the original material without reviewing it. In many instances, to detect this error the reader must secure the original material and investigate the veracity of the rendering.

Ozkan's final sentence in the above quote demonstrates the **citation error of hearsay**: An author makes a claim or statement and provides no citation. This leaves the reader to determine whether the claim is based on other research, other expository literature, or the author's personal biases. Although authors make such claims, a reasonable criticism is generally expected alongside them (which Ozkan does not provide). While this error is usually easier to detect than the error of proxy, the casual reader might internalize its relevance and move on without realizing that the statement fails to appropriately justify the claim. It is important to note that the occasional claims about the inseparable relationship between QDAS and grounded theory are handled well by Lee and Fielding (1996) who explain that the phrase

"grounded theory" is widely recognized, even among researchers who have never used the approach or read the scholarship about it. As such, grounded theory has become mythologized by qualitative researchers (whether or not they use software) and this problem has carried over to the use of QDAS. Therefore, it is not exclusively a QDAS problem.

The Classic Literature Review

Reaching back roughly a decade from where this journey began, there is a shift in the way Welsh (2002) handled the discussion of separation/distancing. Instead of scholarship that engages the strategic insertion of a few citations to make a point with a host of citation errors (Garcia & Hooper, 2011; Ozkan, 2004), a different mode akin to a classic, comprehensive literature review is provided:

> Much has been written about the use of computers in qualitative data analysis with some commentators expressing concern that the software may "guide" researchers in a particular direction (Seidel, 1991). Others have commented that using [QDAS] could serve to distance the researcher from the data, encourage quantitative analysis of qualitative data, and create a homogeneity in methods across the social sciences. (Barry, 1998; Hinchliffe et al., 1997). (para. 4)

The accuracy of Welsh's (2002) summary of the literature can be confirmed via an examination of all three citations in this paragraph and her careful use of the phrases, "*may* 'guide' researchers" and "*could* serve to distance the researcher" (para. 4, emphasis added). In order to facilitate the logical flow of the subsequent material and the chronological trajectory in Figure 1, the next section begins with Hinchliffe et al. (1997), and then turns to Barry (1998), Weaver and Atkinson (1994), Seidel (1991), and Agar (1991).

Rich Reflections

Hinchliffe, Crang, Reimer, and Hudson (1997). That Hinchliffe et al. (1997) raised concerns about potential distancing is undeniable, but they firmly stated that such distancing is not inevitable.

> To be sure, as we suggest later on, we are not implying that further "distancing" is an inevitable consequence of [QDAS]. Indeed, there may be a case for arguing that certain types of distancing effects can be somewhat lessened through using these technologies. (pp. 1114-1115)

In addition to challenging the *ipso facto* distancing of QDAS, they raise an important nuance rarely discussed in subsequent literature: There are different types of distancing, some of which are ameliorated with the use of QDAS. This is a complex understanding that avoids reification of a singular type of distance. In line with this nuanced understanding of separation/distancing, Hinchliffe et al. (1997) cautioned readers about myopic, knee-jerk assessments that result in either adoption or rejection of QDAS.

> . . . we would urge qualitative researchers to avoid either an outright rejection or an unquestioning adoption of computer software packages. Rejection is based on the view that computers embody something which is unqualitative, a formulation that we have suggested is determinist and based upon a representation of tactile ethnography which is at best questionable. Meanwhile,

> uncritical adoption is based on a benign construction of technology. We have argued that computer packages are not bolt-on gadgets which can be appended to research projects and then used uncritically. Rather, they become intrinsic parts of the constructive process which can be called "knowledge-making". Maintaining a craft-like approach to research can help to open up critically imaginative ways of working with computers (as techniques of representation) and avoiding the tendency for these programmes to become black-boxes or demonised gadgets. (p. 1123)

Therefore, while they certainly raise the *potential* problems with QDAS, they also see room for creative and critical use that could enhance our construction of knowledge. This is not evident from how Welsh (2002) cites this scholarship.

Barry (1998). Welsh's (2002) literature review also cited Barry (1998), who demonstrated a rich and measured reflexivity similar to Hinchliffe et al. (1997), noting that current literature "expresses both hopes and fears" for the software. After outlining some of these hopes, she said:

> In spite of these pros there are a good many criticisms and worries about the software in the literature, what Seidel (1991) calls "the dark side of the technological advance". The main worries are: that it will distance people from their data; that it will lead to qualitative data being analysed quantitatively; that it will lead to increasing homogeneity in methods of data analysis; and that it might be a monster and hi-jack the analysis.
>
> The concern about distance from the data was raised by Seidel (1991) in discussing his own package, The [Ethnograph]. This fairly early package did suffer from a coding process that was very complex. This might have led its users to be so caught up with working out how to code that they may have lost sight of their data. Weaver and Atkinson (1994) certainly report this problem when they tested it out in tandem with some of the other packages. (paras. 2.1 & 2.2)

While Barry provided these concerns, via the assessment of Weaver and Atkinson (1994), she also later directly addressed the main problem with the critics who make the separation/distancing criticism:

> Those who express this concern have often not used [QDAS]. Those who have tried the software have realised that it is not possible to analyse your data without reading and being familiar with it first. Continuing analysis relies on the necessity of re-reading data both in complete transcripts/fieldnotes and in categorised chunks, over and over again, to develop an analysis with any depth. In the worst case, it is possible that a researcher could only read the data in context during the process of initial coding (a prerequisite of any coding). After that, they could just read snippets of data that have been coded under each category to develop a final analysis, without ever returning to the full contextualised data. However, this strategy is equally possible for those that use index cards, scissors and photocopies or word processor cut and paste functions. It may be possible to produce analysis using this superficial brush with the data but it is unlikely to yield a quality analysis. Technology does not increase this

> likelihood. There will always be some researchers who conduct superficial analyses that are lacking in rigour and depth, whatever their tools. (para. 2.3)

Barry (1998) saw QDAS as particularly helpful for cross-case thematic analysis; for other analytical tactics, she used other tools and techniques. This rich and complex portrayal of the role of QDAS is reflected in the three, key citations she provides (Agar, 1991; Seidel, 1991; Weaver & Atkinson, 1994), a role that is not explored by Welsh (2002).

Weaver and Atkinson (1994). Concerns about The Ethnograph, developed by John Seidel in 1984, were raised by Weaver and Atkinson (1994). However, their issue had less to do with distancing than with the difficulty researchers have in understanding how the computer algorithms operate and how data preparation requirements influenced the analysis and the researcher. In addition, they also framed distancing as "forgetting" because of the distractions of the technology. When discussing the processes of coding and searching via Boolean operators, they provided warnings:

> Yet theory building by these means is very limited with [The Ethnograph] because of its maximum limits regarding codes per segment, and only two types of Boolean operators. Moreover, this particular version of theory building is only comfortable with more traditional epistemological approaches, which value the construction and testing of hypotheses in the search for objective knowledge. Thus it seems that [The Ethnograph] implicitly encourages an epistemological position which views the empirical or "real" world of study, and data about it, as independent from the researcher. (pp. 160-161) . . . Seidel's fear that researchers will become increasingly preoccupied with quantitative aspects of data—in particular volume and diversity—certainly seems to have taken hold. (p. 161)

Despite these concerns, Weaver and Atkinson (1994) go on to provide a fairly measured review that points to ways the software might be helpful:

> From our experience, it appears that [The Ethnograph] may be used in two ways. First, it may be used for the purposes of gaining a holistic view of social phenomena by focusing on or "slicing" the data in different ways, according to topics and themes. Alternatively, it may be used for the purposes of theorizing about aspects of the field or, in other words, how factors and variables relate to produce observed phenomena. Each approach to coding makes sense only in terms of different research aims and methodological considerations. (p. 160)

Readers must bear in mind that in addition to their measured assessment of potential advantages and disadvantages of The Ethnograph, they reviewed other QDAS programs available at the time (Kwalitan, Guide, FYI, and NUD*IST) and raised fewer concerns. Furthermore, at this stage in the history of QDAS development (20 years ago), Weaver and Atkinson (1994) were reviewing the earliest versions of the programs which were in MS-DOS. At the time, developers were still investigating the best way to program the software so the basic mechanics would be less of a distraction; they relied on observations of Weaver and Atkinson (1994) and others to explore various improvements.

Seidel (1991). Before turning to conclusions and implications, two authors remain to be discussed in this genealogy: Seidel (1991) and Agar (1991). Even in Weaver and Atkinson's (1994) measured review of the nuances of several QDAS options, they unfairly characterized Seidel's (1991) "fear that researchers will become increasingly preoccupied with quantitative

aspects of data – in particular volume and diversity" (p. 161). This translation failed to take into account the measured caveats with which Seidel (1991) explored this fear, particularly when considering his acknowledgement that he was putting on another hat and deviating from his usual, supportive stance about QDAS. Therefore, despite their generally measured reflections in the book, to cite Seidel (1991) as Weaver and Atkinson (1994) do, amounts to another example of the citation error of half-truth, an error exposed by returning to Seidel's (1991) original claims:

> Personally, and professionally, I have made major commitments based on the assumption that the adaptation of computer technology to the needs of qualitative researchers is positive and desirable. Yet, in the process of using this technology, and in talking with others who are currently using it (or are contemplating using it), I have also become convinced that it has a dark side. Therefore, rather than engaging in my usual tasks of proselytizing for the use of computers in qualitative research, and writing about a computer program that I am personally quite fond of, I would like to discuss what I feel is the dark side of this technological advance. I still am committed to the position that the computer can have positive effects on qualitative method and data analysis. None the less, I have a sense of how it can also lead to some interesting forms of research behavior that I shall call analytic madness. These include:
>
> 1. an infatuation with the volume of data one can deal with, leading to a sacrifice of resolution for scope;
> 2. reification of the relationship between the research and the data;
> 3. distancing of the researcher from the data. (p. 107)

Later on, Seidel did acknowledge the ability of QDAS to facilitate various data reduction strategies, and emphasized that he had:

> . . . no objection to this. My concern is that qualitative data analysis might get reduced to this, and that qualitative researchers might start working in this manner, not because it is the best or most appropriate way to proceed, but because the technology makes it easy for them to work this way. (p. 115)

Again, Seidel presented this observation as a caution around a potential problem, not an inevitable outcome of QDAS. In an equally measured, cautionary voice in his conclusion, he compared the introduction to this technology in the qualitative research enterprise with another technology from the past:

> My concerns are not unlike Jack Douglas's concerns over the introduction of audio recording technology into the conduct of qualitative research. Douglas did not condemn this technology; in fact he saw many potential benefits from its use in qualitative research. His concern was not that it would be used, but that people would become so infatuated with it that it would drive the research rather than serve the research, and that parts of the social world and social phenomena would be lost because of this. (p. 115)

In this way Seidel (1991) helpfully pointed to the common cultural practice of cautiously accepting new tools with a critical eye toward what they might do to harm as well as help the research.

Agar (1991). At the beginning of his chapter, "The Right Brain Strikes Back," Agar (1991) says, ". . . later I shall describe a study where, if [The Ethnograph] had been available, I would have been the first in line" (p. 181) because it has "powerful and positive consequences for what we do" (p. 182). Nonetheless, he helped identify potential QDAS problems without being deterministic. His main concern was that QDAS could be used as a sole strategy, separating/distancing the researcher's brain from the analytical process, cautioning that ". . . a program like [The Ethnograph] represents a part of an ethnographic research process. When the part is taken for the whole, you get a pathological metonym that can lead you straight to the right answer to the wrong question" (p. 181). In a cultural environment that promoted an increasingly seductive role of the computer, Agar (1991) also ". . . kept having nightmares about two studies – a lousy computer analysis and a beautiful analysis done by hand – where the community of researchers would immediately gather around the printout and celebrate its form rather than its content" (p. 185).

Seidel (1991) focused more of his concerns about distancing on the **early stages** of the qualitative research process where the tactics for collecting and analyzing data might be driven by conveniences of technology rather than a thoughtful consideration of the options. Agar (1991) focused his concerns on the **later stages** of generating output and sharing findings; a problem of separation might be promoted when an audience becomes distracted by the form at the expense of the content. Together, Seidel (1991) and Agar (1991) point researchers to another, regularly ignored nuance of separation/distancing: The particular qualities of distancing might present themselves differently or have varying implications during the **ongoing phases** of the research process. These carefully articulated observations about qualitative research practice with QDAS remain equally important now, even though current versions in the same software line (e.g., ATLAS.ti and NVivo) look very different than they did in the early 1990s.

Genealogy Summary

Based on this review of the separation/distancing criticism, three phases emerge over three decades regarding the way scholars have cited literature about QDAS. The earliest literature in the 1990s can be characterized as thoughtful and measured, with each author describing a combination of potential positive and negative influences of QDAS. This might be a reflection of a diligent community of practice, whose members were trying to be reflexive about adoption of new technologies that would impact the qualitative research enterprise. Together, they effectively articulated that: (1) Closeness and distance are nuanced and multifaceted positions, experiences, practices (etc.) and we would be wise to avoid simplifying and thereby reifying them. (2) Distancing can occur at various stages of the research from design to the communication of findings. (3) The way to address the potential problems of distancing is to avoid vilifying or romanticizing QDAS and to engage in reflection and self-critique.

The next decade seems to have transitioned toward the use of a comprehensive literature review, in which a more extensive examination of various draw-backs and benefits of QDAS was systematically assessed and described. More written materials were made available by this time, and most experienced qualitative researchers were at least aware of QDAS. This literature review approach helped provide a foundation for the reader and represented an author's due diligence to situate his or her own work within the literature in the field. The third decade – which is nearing an end at the publication of this investigation– has seen an increase in the misrepresentation of both strengths and weaknesses of QDAS via "cherry-picking" from the extensive literature now available. Some authors might simply want to make their point and move on, so they pick a citation that supports a particular claim.

Two additional conclusions can be drawn from this genealogy of the separation/distancing criticism. First – and as anticipated – many of the recent publications suffer from the citation errors of half-truth, proxy, and hearsay. As detailed in the conclusion, one way of slaying these zombies is to pay attention to the citation errors rather than continue to attend to the off-target and/or overly simplistic claims themselves. The citation errors are the real problem and this should be brought to the attention of the various audiences in as many ways as possible. Next, despite the fact that observations made by Agar (1991), Barry (1998); Hinchliffe et al. (1997), Seidel (1991) and Weaver and Atkinson (1994) are at least 20 years old, they still carry remarkable wisdom for our use of QDAS today. By exploring the intersections of cognition, technology, methodology, and culture, they provided well-rounded and critical insights, with a balance of caution and optimism about QDAS. Throughout their explorations, their careful use of qualifying terms seems designed to get us engaged in the messy discussion rather than firmly affixed in our tidy positions.

For example, Agar (1991) does not say that QDAS *will* lead to bad research, but he cautions against a "*potentially* destructive step" (p. 193, emphasis added) where the form (computer output) becomes more important than the content. Welsh (2002) does not say that existing criticisms *prove* the problem of separation, but that in certain circumstances, QDAS "*could* serve to distance the researcher" (para. 4, emphasis added). Barry (1998) does not say researchers who use QDAS *necessarily* become detached from the process, but that QDAS "*might* be a monster and hi-jack the analysis" (para 2.1, emphasis added). All of the current experts we know in the QDAS field would agree with these concerns and each of us has stories from classrooms or consultations where we observed the separation/distancing problem and tried to divert researchers away from this misstep toward effective software use. Contrary to the criticism that software limits qualitative research and those who use it, there are interesting, new experiences, made available to by QDAS that contradict the short-sighted and perhaps technophobic criticisms about separation/distancing.

Implications and Recommendations: Zombies Revisited

Before concluding with specific recommendations, three, critical observations about the separation/distancing zombie are worth summarizing:

1. In the *research* literature, there is a void of materials that adequately verify, discount or explore the separation/distancing criticism in the use of QDAS.
2. In the *expository* literature, there is ample evidence of the citation errors of half-truth, proxy, and hearsay regarding the separation/distancing criticism in the use of QDAS.
3. Among qualitative researchers who do and do not use QDAS, as exemplified by Silver and Woolf (2015), there is ample evidence that a commitment to researcher connection/closeness is widespread and that we could do more to improve our understanding of the *nuances* of separation/distancing and connection/closeness.

What, then, are we to conclude about the zombie metaphor? As stated at the outset, this metaphor accurately captures the weary reality experienced by QDAS trainers and users as they defend against deterministic criticisms. More specifically, the recent criticisms in the literature have seemed surprisingly hard to kill given the lack of intellectual substance that accompanies their clumsy lurches. We therefore find ourselves in a paradox, like the survivors in *The Walking Dead* (Kirkman, 2010), compelled to protect ourselves by killing something that is already deceased. So, we turned to the literature on the zombie genre to see if it held lessons

for our circumstance. This research brought us, unexpectedly, to a final culprit that continues to stimulate the lifeless, separation/distancing criticism into action. To expose this final, guilty party we will briefly examine the history and salience of the zombie figure.

During the French occupation of Haiti in the 1600s and 1700s, Haitian slaves created the zombie to represent their complete, helpless subjugation as an image that reflected their devastating, dehumanizing and brutalized existence (Wadsworth, 2016). This historical reality presented us with an uncomfortable truth: We were co-opting an important historical artifact—packed with unimaginable human suffering—to symbolize a relatively elite, academic discourse. Our use of this symbol amounts to another colonization because the surge in the modern popularity of the zombie genre places English-speaking cultures at the forefront of refashioning the zombie as entertainment. We are therefore obligated to acknowledge that zombies are real insofar as they evolved in a specific cultural context based on real experiences and this forced us to revisit the reality of the criticisms about QDAS.

Furthermore, by denying the QDAS criticisms through the imagery of the zombie, we were essentializing QDAS critics in precisely the way we have argued that we no longer want to be essentialized ourselves. By framing them as zombies we can easily wipe them away as nonsensical and we do not have to create a space for understanding them. This self-incriminating dynamic would be no surprise to Wadsworth (2016) who noted that zombie fiction has ". . . long been a vehicle for conceptualizing encounters between alienation and power" (p. 562), nor to Boyer (2014), who warned that this type of discourse in the political arena could promote a nearly intractable "siege-discourse" (p. 1148) with devastating consequences.

So, as we draw to a close, we now deliberately identify the final culprit: Ourselves. Instead of returning to the rich, reflective literature from the 1990s, we have often, in our own work, cited critics who use deterministic language around the impact of QDAS in order to set up their juxtaposing views, so they can be easily dismantled; in academic discourse, it is much easier to aggressively dismiss an empty-headed zombie than a thoughtful scholar. While these final realizations about the zombie metaphor and its implications were initially disappointing because we were forced to step down from our privileged position of accuracy, we came across one last development that made the salience of the zombie metaphor all the more palpable. In *The Walking Dead* (Kirkman, 2010), one of the main plot twists in the graphic novel occurs when the survivors discover that they need not be bitten to catch the horrific virus; everyone is already infected. This means that the line between zombies and survivors is not as clear, since everyone is a carrier of the virus.

The lesson, here, is that when we QDAS experts fall into the practice of referencing outmoded or obviously erroneous, deterministic criticisms of QDAS in order to set them up as easily discredited zombies, not only are we dehumanizing our critics, but we are actually perpetuating the problem: Due to the citation errors of half-truth, proxy, and hearsay, our QDAS tropes are likely to be adopted by other scholars and repeated carelessly. In other words, to the degree that we use this strategy, we may not be very different from our critics in perpetuating the zombie sickness. We are carriers.

The real way to combat this zombie virus is to acknowledge our role and carefully examine the separation/distancing criticism instead of dismissing it. We can bring our expertise in QDAS to bear on examining this criticism. In doing so, we can observe, describe and advance effective maneuvers that qualitative researchers employ to stay close to the data. Woolf and Silver (2017) contribute to this with their Five-Level QDA™ method which emphasizes the researcher role in translating research strategies into specific tactics within the software, with a constant reassessment along the way to determine the most appropriate next steps (also see Silver & Woolf, 2015). This approach presumes that each project should be considered unique and the researcher should not adopt particular analytical activities simply

because the software makes them possible. Rather, the use of tools should respond to the researcher-established goals and priorities, with creative combinations of tools employed based on these goals and priorities. This demands that the researcher is actively engaged; the researcher does not sit back and simply let a technical tool do the work (Evers, 2016).

We argue that the process of translation between strategies and tactics that is spelled out in the Five-Level QDA method – whether a researcher uses QDAS or not – is part of the dynamic that keeps researchers engaged and serves as an antidote to separation/distancing. We also propose that by attending to approaches such as the Five-Level QDA method we can free up some of our attention on the zombies to pursue more interesting questions. For example: When qualitative researchers are getting comfortable with the analysis, what strategies can they use to challenge their core concepts? How can qualitative researchers consciously "step away" from the screen and most productively "re-engage" after some time away? To what end?

We conclude with four concrete recommendations based on this investigation into the unsubstantiated claim that QDAS creates a barrier between the researcher and the data, limiting his or her ability to become close to and familiar with the data (a claim partially dismantled by the detailed genealogy). First, we should continue to push a research agenda that more carefully examines qualitative researchers in practice to explore the salience and dynamics of the four criticisms (separation/distancing, homogenization/standardizing, mechanization/dehumanizing, quantification/decontextualizing). Next, if a QDAS critic raises unwarranted, deterministic claims, we should stop using these citations as a foil against which we can easily wield our response. Instead (our third recommendation), we should identify the type of citation error, if we reference the material at all, and for clarity we repeat them here:

1. The citation error of half-truth: A partial account of the original that strongly suggests a deviation from the original author's intent by omitting essential information needed to understand the criticism appropriately.
2. The citation error of proxy: An author does not engage the reader via original material and instead uses secondary sources even though the originals are readily available.
3. The citation error of hearsay: An author makes a claim or statement and provides no citation.

Finally, we should attend to approaches such as the Five-level QDA method (Silver & Woolf, 2015) as one way of simultaneously countering the deterministic expository literature and promoting thoughtful, effective training and use of QDAS.

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